# CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

**NABL** - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377

Job No.: CTCE/BBMP/W.No.05/KRIDL/CSR-9/619F/CEMENT/2014-15

Date: 10.09.2014

## TEST REPORT ON CEMENT

| | | |
|---|---|---|
| * CUSTOMER | : | **Asst. Executive Engineer**, Byatarayanapura Sub Division, BBMP, Bangalore. |
| *AGENCY | : | **Technical Manager,** KRIDL, Bangalore. |
| *NAME OF THE WORK | : | Construction of RCC Drains at Agrahara Layout in Ward No.05, Byatarayanapura Sub Division, BBMP, Bangalore. |
| *REFERENCE | : | AEE/BSD/BBMP/93/2014-15 Dated: 07.09.2014 |
| SAMPLE ID | : | Cement |
| SAMPLE RECEIVED ON | : | 07.09.2014 |
| PERIOD OF TESTING | : | 07.09.2014 to 10.09.2014 |

The results of the tests conducted on the cement sample are as follows:

| Sl. No | Descriptions | Test Method as per IS | Test Result | Requirements as per IS: 8112-2013 |
|---|---|---|---|---|
| 1 | Standard Consistency | IS-4031 (Part -4) 1988(RA-2009) | 29.50 % | - |
| 2 | a) Initial Setting Time | IS-4031 (Part -5) 1988(RA-2009) | 140 Minutes | Not Less than 30 Minutes |
| | b) Final Setting Time | IS-4031 (Part -5) 1988(RA-2009) | 490 Minutes | Not More than 600 Minutes |
| 3 | Soundness by Le Chartlier Method | IS-4031 (Part-3) 1988(RA-2009) | 1 mm | Not more than 10mm |

*Information is furnished by the Customer/Representative.

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⇒ Any Query regarding the report must be reported within 30 days from the date of testing.

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VISHWANATH .C
Quality Manager

Assistant Executive Engineer
Byatarayanapura Sub Division
Bangalore

AE-05
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Building & Highway Material Testing Laboratory

**NABL** - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377


Job No.: CTCE/BBMP/W.No.05/KRIDL/CSR-9/619F/SAND-Gradation/2014-15 : 10.09.2014

## TEST REPORT ON DETERMINATION GRADATION OF FINE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

*** Agency** : **Technical Manager,** KRIDL, Bangalore.

*** Name of Work** : Construction of RCC Drains at Agrahara Layout in Ward No.05, Byatarayanapura Sub Division, BBMP, Bangalore.

**Reference** : AEE/BSD/BBMP/93/2014-15 Dated: 07.09.2014

**Technical Reference** : IS : 2386 Part 1 - 1963 RA-2007

**Sample ID** : Fine Aggregates

**Sample Received on** : 07.09.2014

**Date of Testing** : 10.09.2014

Total Wt. of Aggregates in gms **1000**

| Is Sieve Size in mm | Cumulative Weight Passing in % | Specific Limits as per IS 383-1970 (RA- 2007) | | | |
|---|---|---|---|---|---|
| | | Zone-I | Zone-II | Zone-III | Zone-IV |
| 10 | 100 | 0 | 0 | 100 | 100 |
| 4.75 | 91.00 | 90-100 | 90-100 | 90-100 | 95-100 |
| 2.36 | 77.40 | 60-95 | 75-100 | 85-100 | 95-100 |
| 1.18 | 57.60 | 30-70 | 55-90 | 75-100 | 90-100 |
| 600 Micron | 31.52 | 15-34 | 35-59 | 60-79 | 80-100 |
| 300 Micron | 17.46 | 5-20 | 8-30 | 12-40 | 15-50 |
| 150 Micron | 7.50 | 0-10 | 0-10 | 0-10 | 0-15 |

* Information is furnished by the Customer/Representative

**Remarks :** This sample is under Zone-I specific limits.

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Assistant Executive Engineer
Byatarayanapura Sub Division
B.B.M.P Bangalore

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# CIVIL-TECH CONSULTANTS AND ENGINEERS

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T-2377

Job No.: CTCE/BBMP/W.No.05/KRIDL/CSR-9/619F/AGG/GR/2014-15 : 10.09.2014

## TEST REPORT ON COARSE AGGREGATES

*** Customer** : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

*** Agency** : **Technical Manager,** KRIDL, Bangalore.

*** Name of Work** : Construction of RCC Drains at Agrahara Layout in Ward No.05, Byatarayanapura Sub Division, BBMP, Bangalore.

**Reference** : AEE/BSD/BBMP/93/2014-15 Dated: 07.09.2014

**Technical Reference** : IS : 2386 Part 1 -1963 RA-2007

**Sample ID** : Coarse Aggregates (40mm)

**Sample Received on** : 07.09.2014

**Date of Testing** : 10.09.2014

Total Wt. of Aggregates in gms= **10000**

| Is Sieve Size in mm | Cumulative Weight Passing in % | Specific Limits as per IS 383-1970 (RA- 2007) | |
|---|---|---|---|
| | | Graded | Single Sized |
| 80 | 100 | 100 | - |
| 63 | 100 | - | 100 |
| 40 | 97.71 | 95-100 | 85-100 |
| 20 | 41.38 | 30-70 | 0-20 |
| 10 | 12.42 | 10-35 | 0-5 |
| 4.75 | 2.22 | 0-5 | - |

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**Remarks :** This sample is under Graded specific limits.

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**NABL** - Accredited Laboratory as per ISO / IEC-17025 : 2005


Job No.: CTCE/BBMP/W.No.05/KRIDL/CC Blocks/2014-15 10.09.2014

## TEST REPORT ON CEMENT CONCRETE BLOCKS

Customer : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of the Work : Construction of RCC Drains at Agrahara Layout in Ward No.05, Byatarayanapura Sub Division, BBMP, Bangalore.

Refernce : AEE/BSD/BBMP/93/2014-15 Dated: 07.09.2014

Size of Block : 400 mm x 200 mm x 200 mm

Cross Sectional Area : 80000 $mm^2$

Technical Reference : IS: 2185 (Part 1) - 2005

No. of Blocks Tested : 03

| Sl.No. | Date of Sampling | Date of testing | Failure load (KN) | Compressive strength | Minimum Compressive Strength of Individual Units |
|---|---|---|---|---|---|
| | | | kN | $N/mm^2$ | $N/mm^2$ |
| 1 | 08.09.2014 | 10.09.2014 | 261.2 | 3.27 | 3.2 |
| 2 | 08.09.2014 | 10.09.2014 | 262.3 | 3.28 | |
| 3 | 08.09.2014 | 10.09.2014 | 263.1 | 3.29 | |

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# CIVIL-TECH CONSULTANTS AND ENGINEERS

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Job No.: CTCE/BBMP/W.No.05/KRIDL/CSR-9/619F/CUBE/2014-15

29.12.2014

## TEST REPORT ON CONCRETE CUBES

*** Customer** : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

*** Agency** : **Technical Manager,** KRIDL, Bangalore.

*** Name of the work** : Construction of RCC Drains at Agrahara Layout in Ward No.05, Byatarayanapura Sub Division, BBMP, Bangalore.

*** Reference** : AEE/BSD/BBMP/93/2014-15 Dated: 07.09.2014

*** Sample ID** : Drain Concrete.

**Size of cubes** : 150mmx150mmx150mm

**Cross Sectional Area** : 22500 $mm^2$

**Technical Reference** : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : $M_{15}$

**Compressive Strength as on** : 28th day

**Sample Received on** : 28.12.2014

| Sl.No. | * Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 01.12.2014 | 29.12.2014 | 8.102 | 349.2 | 15.52 |
| 2 | 01.12.2014 | 29.12.2014 | 8.213 | 359.6 | 15.98 |
| 3 | 01.12.2014 | 29.12.2014 | 8.326 | 365.3 | 16.24 |

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*** Sample ID** : Drain Concrete.

**Size of cubes** : 150mmx150mmx150mm

**Cross Sectional Area** : 22500 $mm^2$

**Technical Reference** : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : $M_{15}$

**Compressive Strength as on** : 28th day

**Sample Received on** : 28.12.2014

| Sl.No. | * Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 01.12.2014 | 29.12.2014 | 8.258 | 362.3 | 16.10 |
| 2 | 01.12.2014 | 29.12.2014 | 8.396 | 367.5 | 16.33 |
| 3 | 01.12.2014 | 29.12.2014 | 8.410 | 398.6 | 17.72 |

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**Size of cubes** : 150mmx150mmx150mm

**Cross Sectional Area** : 22500 $mm^2$

**Technical Reference** : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : $M_{15}$

**Compressive Strength as on** : 28th day

**Sample Received on** : 28.12.2014

| Sl.No. | * Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 01.12.2014 | 29.12.2014 | 8.149 | 356.2 | 15.83 |
| 2 | 01.12.2014 | 29.12.2014 | 8.336 | 369.5 | 16.42 |
| 3 | 01.12.2014 | 29.12.2014 | 8.297 | 378.9 | 16.84 |

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*** Reference** : AEE/BSD/BBMP/93/2014-15 Dated: 07.09.2014

*** Sample ID** : Drain Concrete.

**Size of cubes** : 150mmx150mmx150mm

**Cross Sectional Area** : 22500 $mm^2$

**Technical Reference** : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : $M_{15}$

**Compressive Strength as on** : 28th day

**Sample Received on** : 28.12.2014

| Sl.No. | * Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 01.12.2014 | 29.12.2014 | 8.483 | 382.6 | 17.00 |
| 2 | 01.12.2014 | 29.12.2014 | 8.357 | 370.8 | 16.48 |
| 3 | 01.12.2014 | 29.12.2014 | 8.291 | 360.4 | 16.02 |

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*** Reference** : AEE/BSD/BBMP/93/2014-15 Dated: 07.09.2014

*** Sample ID** : Drain Concrete.

**Size of cubes** : 150mmx150mmx150mm

**Cross Sectional Area** : 22500 $mm^2$

**Technical Reference** : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : $M_{15}$

**Compressive Strength as on** : 28th day

**Sample Received on** : 28.12.2014

| Sl.No. | * Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 01.12.2014 | 29.12.2014 | 8.159 | 368.9 | 16.40 |
| 2 | 01.12.2014 | 29.12.2014 | 8.367 | 391.5 | 17.40 |
| 3 | 01.12.2014 | 29.12.2014 | 8.227 | 374.5 | 16.64 |

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T-2377


Job No.: CTCE/BBMP/W.No.05/KRIDL/CSR-9/619F/CUBE/2014-15 29.10.2014

## TEST REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Client** : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

*** Agency** : **Technical Manager,** KRIDL, Bangalore.

*** Name of the work** : Construction of RCC Drains at Agrahara Layout in Ward No.05, Byatarayanapura Sub Division, BBMP, Bangalore.

*** Reference** : AEE/BSD/BBMP/93/2014-15 Dated: 07.09.2014

*** Sample ID** : Drain Concrete

**Size of cubes** : 150mmx150mmx150mm

**Cross Sectional Area** : 22500 $mm^2$

**Technical Reference** : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : $M_{20}$

**Compressive Strength as on** : 28th day

**Sample Received on** : 28.10.2014

| Sl.No. | * Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 01.10.20114 | 29.10.2014 | 8.125 | 478.2 | 21.25 |
| 2 | 01.10.20114 | 29.10.2014 | 8.235 | 482.3 | 21.44 |
| 2 | 01.10.20114 | 29.10.2014 | 8.374 | 498.6 | 22.16 |

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T-2377

Job No.: CTCE/BBMP/W.No.05/KRIDL/CSR-9/619F/CUBE/2014-15 12.11.2014

## TEST REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Client** : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

*** Agency** : **Technical Manager,** KRIDL, Bangalore.

*** Name of the work** : Construction of RCC Drains at Agrahara Layout in Ward No.05, Byatarayanapura Sub Division, BBMP, Bangalore.

*** Reference** : AEE/BSD/BBMP/93/2014-15 Dated: 07.09.2014

*** Sample ID** : Drain Concrete

**Size of cubes** : 150mmx150mmx150mm

**Cross Sectional Area** : 22500 $mm^2$

**Technical Reference** : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : $M_{20}$

**Compressive Strength as on** : 28th day

**Sample Received on** : 11.11.2014

| Sl.No. | * Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 15.10.2014 | 12.11.2014 | 8.432 | 496.3 | 22.06 |
| 2 | 15.10.2014 | 12.11.2014 | 8.396 | 489.6 | 21.76 |
| 2 | 15.10.2014 | 12.11.2014 | 8.214 | 480.3 | 21.35 |

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T-2377


Job No.: CTCE/BBMP/W.No.05/KRIDL/CSR-9/619F/CUBE/2014-15

30.11.2014

## TEST REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Client** : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

*** Agency** : **Technical Manager,** KRIDL, Bangalore.

*** Name of the work** : Construction of RCC Drains at Agrahara Layout in Ward No.05, Byatarayanapura Sub Division, BBMP, Bangalore.

*** Reference** : AEE/BSD/BBMP/93/2014-15 Dated: 07.09.2014

*** Sample ID** : Drain Concrete

**Size of cubes** : 150mmx150mmx150mm

**Cross Sectional Area** : 22500 $mm^2$

**Technical Reference** : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : $M_{20}$

**Compressive Strength as on** : 28th day

**Sample Received on** : 29.11.2014

| Sl.No. | * Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 02.11.2014 | 30.11.2014 | 8.129 | 481.6 | 21.40 |
| 2 | 02.11.2014 | 30.11.2014 | 8.397 | 510.4 | 22.68 |
| 2 | 02.11.2014 | 30.11.2014 | 8.273 | 496.5 | 22.07 |

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# CIVIL-TECH CONSULTANTS AND ENGINEERS

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Job No.: CTCE/BBMP/W.No.05/KRIDL/CSR-9/619F/CUBE/2014-15 15.12.2014

## TEST REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Client** : **Asst. Executive Engineer**, Byatarayanapura Sub Division, BBMP, Bangalore.

*** Agency** : **Technical Manager,** KRIDL, Bangalore.

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*** Sample ID** : Drain Concrete

**Size of cubes** : 150mmx150mmx150mm

**Cross Sectional Area** : 22500 $mm^2$

**Technical Reference** : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : $M_{20}$

**Compressive Strength as on** : 28th day

**Sample Received on** : 13.12.2014

| Sl.No. | * Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 17.11.2014 | 15.12.2014 | 8.336 | 532.4 | 23.66 |
| 2 | 17.11.2014 | 15.12.2014 | 8.479 | 516.3 | 22.95 |
| 2 | 17.11.2014 | 15.12.2014 | 8.264 | 490.6 | 21.80 |

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Quality Manager

AE-05

# CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

**NABL** - Accredited Laboratory as per ISO / IEC-17025 :2005

T-2377


Job No.: CTCE/BBMP/W.No.05/KRIDL/CSR-9/619F/CUBE/2014-15

18.12.2014

## TEST REPORT ON DETERMINATION OF COMPRESSIVE STRENGTH OF CONCRETE CUBES

*** Client** : **Asst. Executive Engineer,** Byatarayanapura Sub Division, BBMP, Bangalore.

*** Agency** : **Technical Manager,** KRIDL, Bangalore.

*** Name of the work** : Construction of RCC Drains at Agrahara Layout in Ward No.05, Byatarayanapura Sub Division, BBMP, Bangalore.

*** Reference** : AEE/BSD/BBMP/93/2014-15 Dated: 07.09.2014

*** Sample ID** : Drain Concrete

**Size of cubes** : 150mmx150mmx150mm

**Cross Sectional Area** : 22500 $mm^2$

**Technical Reference** : IS: 516-1959 (Reaffirmed 2008)

*** Grade of Concrete** : $M_{20}$

**Compressive Strength as on** : 28th day

**Sample Received on** : 17.12.2014

| Sl.No. | * Date of casting | Date of testing | Weight of cube (Kg) | Failure load (KN) | Compressive strength ($N/mm^2$) |
|---|---|---|---|---|---|
| 1 | 20.11.2014 | 18.12.2014 | 8.157 | 499.6 | 22.20 |
| 2 | 20.11.2014 | 18.12.2014 | 8.282 | 512.3 | 22.77 |
| 2 | 20.11.2014 | 18.12.2014 | 8.391 | 528.9 | 23.51 |

* Information is furnished by the Customer/Representative

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported within 30 days from the date of testing.

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VISHWANATH .C
Quality Manager


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